

逐步踏實

95 抗登革心情紀實——

行政院衛生署疾病管制局 編著



行政院衛生署疾病管制局 出版
中華民國96年6月

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觀念落實・經驗傳承

行政院衛生署疾病管制局局長 郭旭崧

有別於以往所出版的登革熱相關書籍，今日出版「逐步踏實—95抗登革熱心情紀實」一書，記錄了第一線防疫人員的工作點滴與心情寫照，貼近南部民眾對抗登革熱的日常生活經驗，相信更能引發大家內心深處的感動與共鳴。從這些故事中，我們看到登革熱戰役的另一面：里長及區長如何整合民眾力量並積極爭取政府協助，最後終於重建美麗乾淨的家園；機動防疫隊帶頭清理民眾住家環境，進而帶動當地居民的共同參與並喚醒社區意識；防疫人員及志工為消滅疫情，每日早夜奔馳、團結合作的辛勞與付出；這些故事使我們明白，原來，對維護民眾生命安全的熱切使命感，與人性中互助、友愛的信念，終將是消滅疫病的最大原動力。



由於氣候及其他外來因素，登革熱幾乎年年都對南部地區民眾造成健康威脅，在一次又一次的疫情考驗下，在不斷反省檢討的過程中，疾管局對於疫情處理有著不斷創新的思惟與方式，高科技工具的應用與防疫人員應變處理技巧也越來越純熟。但不論科技與技術再如何進步，經驗的傳承以及屬於人性中溫暖、合作、互助的精神所揉合出的巨大能量，在民國95年，讓我們順利打破了登革熱四年一次大流行的魔咒。無疑的，這些故事中出現的每個可愛可敬的主人翁，正是登革熱防治最大的功臣。

行政院衛生署疾病管制局 局長

郭旭崧

指揮戰略紀律三響炮

行政院衛生署疾病管制局副局長 施文儀

九十五年高屏地區的登革熱疫情一如預測，我銜命南下坐鎮前進指揮所。前進指揮所以第五分局及檢驗室同仁為核心，整合來自總局、其他分局及衛生局支援的防疫夥伴，形成一支指揮一元、戰術精準、紀律嚴明的作戰團隊。

衛生體系平時中央、地方各自一條鞭，如在變時仍然維持「兩條鞭」的指揮系統，將使命令流與訊息流演成亂流，因此此次前進指揮所首重於將中央與地方指揮體系的「接軌」，承指揮中心之命令，將抗登革之戰略與戰術，透過指揮所工作會議及縣市政府指揮中心之平台接受訊息、傳達命令、提供資源及管制督導。此次指揮體系的一元化實可做為未來大型疫災時的運作模式範本。

戰略與戰術的應用往往考驗著指揮者的指揮與判斷能力，藉由情報及防治量能分析，站在制高點加以思考整合。此次防疫作戰歷經三次戰略變化，也牽涉到機動防疫隊功能轉型及前進指揮所隊形變換，能夠成功有效地判斷及轉換，應歸功於指揮所幕僚人員以幹練專業的能力，提供足以研判掌握的參數供我參考；疫情初期，10月2日以功能為導向區分疫情調查組、病媒防治組、機動防疫隊、衛教宣導組、管考組、檢驗組，到了中期，10月



25日爲了讓防疫戰略更落實於各行政區，依疫情情況選定前鎮、三民、苓雅、鼓山和鳳山等五個戰區，以分析評估各戰區的疫情與防疫作爲，到了疫情尾聲，11月17日起各戰區開始執行「容器減量」以達治本之效，並與地方政府合組戰果評估團隊以確認成效。

在楊國禧副前進指揮官、機動防疫隊邱鴻英大隊長的協助下，以「斯巴達」的軍事化管理方式，帶領來自四面八方不同單位成員，真可謂現代版的防疫「三百壯士」。我規定機動防疫隊員均住相同飯店、每日研讀疫情戰報，以利情資平等流暢；每日早上八點固定集結部隊，早點名、唱局歌—「防疫視同作戰」、裝備檢查及任務分派；我每日也以理性、感性的故事、原理或方法來訓勉同仁；要求隊員外業結束後定時回指揮所報告，分析病媒、孳生源及疫調結果，如此日復一日不間斷。此「斯巴達」式的管理並獲高雄縣市政府沿用。

本書「逐步踏實-95抗登革心情紀實」除了分享各階層防疫心聲外，亦提供登革熱防治寶貴經驗，並希望藉此傳承及傳播。身爲前進指揮官，我樂於將此次最重要的經驗「指揮、戰略、紀律」以序分享。

行政院衛生署疾病管制局 副局長

施子儀

高市登革熱 致數千人患病

確定病例增至42例

前鎮就佔37例

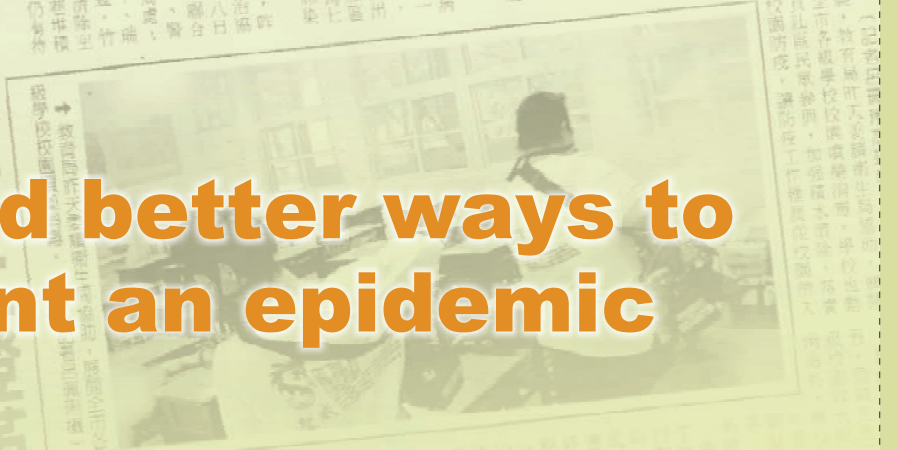
且擴散至前金及苓雅區 市府今起執行環境大掃

鳳山市民檢驗呈陽性 縣衛生局昨表示，八月五日接獲衛生局通報，鳳山市民檢驗呈陽性，經衛生局派員前往該市民家中採檢，結果呈陽性，經衛生局派員前往該市民家中採檢，結果呈陽性，經衛生局派員前往該市民家中採檢，結果呈陽性...

高縣再傳本土登革熱

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高市登革熱疫情已從前鎮區擴散至前金及苓雅區，目前確定的四十二例登革熱病例，其中前鎮區佔三十七例，分布情形是：前鎮區佔三十七例，分別為：前鎮區佔三十七例，分別為：前鎮區佔三十七例，分別為：前鎮區佔三十七例...



New and better ways to prevent an epidemic

CDC tackles daunting community disease

陳再晉巡視前鎮 參與防疫座談會 湯金全帶隊大掃除 抑制疫情蔓延

（記者李俊傑高雄報導）高雄市長陳再晉昨日巡視前鎮區登革熱疫情，並參與防疫座談會。陳市長表示，前鎮區登革熱疫情已擴散至前金及苓雅區，目前確定的四十二例登革熱病例，其中前鎮區佔三十七例，分布情形是：前鎮區佔三十七例，分別為：前鎮區佔三十七例，分別為：前鎮區佔三十七例...



（記者李俊傑高雄報導）高雄市長陳再晉昨日巡視前鎮區登革熱疫情，並參與防疫座談會。陳市長表示，前鎮區登革熱疫情已擴散至前金及苓雅區，目前確定的四十二例登革熱病例，其中前鎮區佔三十七例，分布情形是：前鎮區佔三十七例，分別為：前鎮區佔三十七例，分別為：前鎮區佔三十七例...

歷史終將為我們留下這段 血淚交織的動人史詩

今年本土登革熱 恐破六百例

衛生署指出 疫情主要分布在高市前鎮與高縣鳳山交界

【本報記者林建宏報導】衛生署昨日表示，今年本土登革熱疫情，預計將在今年九、十月間達到高峰，預計全年本土登革熱病例將突破六百例。衛生署指出，今年登革熱疫情，主要分布在高市前鎮與高縣鳳山交界地區。衛生署表示，今年登革熱疫情，主要分布在高市前鎮與高縣鳳山交界地區。衛生署表示，今年登革熱疫情，主要分布在高市前鎮與高縣鳳山交界地區。衛生署表示，今年登革熱疫情，主要分布在高市前鎮與高縣鳳山交界地區。

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衛生署官員昨日舉行記者會，呼籲民眾注意登革熱防治。圖為官員手持「無登革熱」標語牌。

高縣再傳本土登革熱病例

鳳山市長蔡至勝性、縣衛局通知衛生所進行防治，並擴大撲滅

【本報鳳山訊】高縣衛生局昨日表示，鳳山地區昨日再傳本土登革熱病例。衛生局表示，該病例發生在鳳山地區。衛生局表示，該病例發生在鳳山地區。衛生局表示，該病例發生在鳳山地區。衛生局表示，該病例發生在鳳山地區。



衛生人員在社區進行登革熱防治工作，噴灑消毒劑。

全世界都知道：登革熱防治 孳生源清除 列首要

容器減量十三口訣

- 一、(水桶)
- 二、(帆布)
- 三、(水溝)
- 四、(安全燈)
- 五、(廢積物)
- 六、(冷卻水)
- 七、(桶子、盆子)
- 八、(馬桶)
- 九、(洗衣機)
- 十、(浴室)
- 十一、(廚房)
- 十二、(冷卻水)
- 十三、(桶子、盆子)

防疫總動員 環署鳳山督軍

副署長林達雄實勘校園與空屋等環境 肯定防疫人員辛勞 允補助熱區清除經



環保署副署長林達雄率領防疫總動員小組，實地勘驗校園及空屋等環境，肯定防疫人員辛勞。

敬請曾感染登革熱民眾注意

請位那兒父老兄姊大家好！
入夏以來，高屏地區登革熱(天狗熱)人數已高達五百例，種種跡象顯示今年登革熱疫情條件與民國九十一年大流行極為相似。如八、七月平均下雨天數較前週十六天，疫情均從高屏市前鎮區展開等。嚴幸的是政府早在七月即掌握各種流行疫情相關情報，並於八月一日指示高屏三縣市政府不能掉以輕心，要落實防治計劃工作策略，縮小疫情規模以保障民眾健康。
疫情發展至今，有九位民眾曾傳出出血熱，其中不乏兩位年輕學生，住生者年歲均高，並有各種慢性病史如高血壓、糖尿病、缺血性心臟病，因為嚴重感染登革熱而致命。多年來台灣已有數千上萬民眾曾感染登革熱，若再次感染就有可能併發登革出血熱。因此，為有效的避免登革出血熱發生，第一、要提醒曾感染登革熱民眾，為了您和家人的健康，請加強居家內外積水容器的清理，孳生源的清除，平時在家應做好防蚊措施，外出時請穿著長袖衣褲或噴灑塗抹合格的防蚊劑，身體如有發燒、四肢骨節酸痛、頭痛、肌肉酸痛以及嚴重高熱等疑似登革熱症狀請立即就醫，並主動告訴醫師您曾感染登革熱，以利早期診斷、早期治療。第二、也要拜託所有中西醫院、診所、醫護人員能提高警覺，診察時仔細詢問病患的活動史、旅遊史，發現疑似個案立即通報，俾使衛生單位及早採取防治措施，方能避免疫情擴散而使民眾受到傷害。
阻絕傳染病蔓延除政府努力外，還需民間力量及全民共同配合。希望宗教界、愛心社團、社區團體及志工們也應一起投入防治登革熱的行列，提升民眾公德心，創造一個永續成長成果分享責任分擔的健康社區環境。最後，希承蒙再次提醒，曾感染登革熱的民眾要更加自我保護，身體不適應儘速就醫，誠實告訴醫師您的病史，切莫輕心以致耽誤自身健康，也影響社區環境安全。

敬祝 平安喜樂！
登革熱中央流行疫情指揮中心 指揮官 侯勝茂 敬啟

防治登革熱 衛署副座前進疫區

陳再晉巡視前鎮 參與防疫座談會 湯金全帶隊大掃除 抑制疫情蔓延



環保署副署長陳再晉率領防疫總動員小組，實地勘驗校園及空屋等環境，肯定防疫人員辛勞。



CDC tackles daunting

MA KANG-YAO
SUPPLEMENTS WRITER
PHOTOS COURTESY OF CDC

Dengue Fever (DF) and dengue hemorrhagic fever (DHF) are primarily diseases of the tropical and sub tropical areas. It is a kind of community disease that usually breaks out in urban areas. Once a resident of a community has DF, all of the residents in the community are likely to get infected. In 2002, there was an outbreak of DF in southern Taiwan, in which there were more than 5000 cases and 21 people died. Since then, the prevention of DF has become one of the essential jobs for the Center for Disease Control (CDC) and the citizens who constantly clean up the environment in order to prevent DF.

"Many of the DF cases are travel-associated," said Yang Kuo-hsi, (楊國禧) Director of the Fifth Branch Office of CDC and in charge of the prevention of DF in southern Taiwan. "In the airport, we have set up infrared monitors to screen passengers' body temperature and identify possible DF carriers. But for those who have not yet developed fever, we are unable to detect. If infected individuals show no symptoms at the point of entry and go back to their communities, they run the risk of being bitten by *Aedes albopictus* or *Aedes aegypti* and transmitting the virus to others to trigger a DF outbreak."

This year till the middle of August, CDC has already identified 49 cases in the airports, and 12 of them are in Southern Taiwan.

Kaohsiung City, Fongshan City of Kaohsiung County, Pingtung City and Pingtung County are generally considered the most DF-prone areas. These places are the principal habitats of *Aedes aegypti*. In addition, Kaohsiung City is the 6th largest international seaport in the world in which thousands of fishing boats come from all over the world.

However, it doesn't mean northern Taiwan is immune from DF and it did happen in Junghe City in 1995 with more than 100 people infected and Taipei City with more than 10 people infected. NHK, a team from the prestigious Japanese government-run television network just came to Taiwan few months ago to shoot a series of footage about the prevention of DF epidemics because they were seriously concerned that the climate change led by global warming might make Japan one day inhabitable for the *Aedes albopictus* and *Aedes aegypti*. "In Southern Taiwan, *Aedes aegypti*, a domestic mosquito, along with *Aedes albopictus*, are the vectors responsible for the transmission



Minister of Department of Health, Dr. Hou, and Minister of Environmental Protection Agency, Dr. Hou, at the Dengue Prevention Coordination Meeting.

of dengue fever, and they both prefer to feed on humans during the daytime," said Director Yang.

DF and DHF are caused by one of four virus serotypes (DEN-1, DEN-2, DEN-3, and DEN-4). Infection with one of these serotypes provides immunity to only that serotype for life, so persons living in a dengue-endemic area can have more than one dengue infection during their lifetime.

"In the 2002 outbreak, DEN-2 was the primary serotype that caused DF but this year, we found that Den-3 might be the major one," said Director Yang. "In our history, we have experienced all serotypes in southern Taiwan. If you had been infected by Dengue fever more than once, you would have a higher chance of getting dengue hemorrhagic fever, (DHF)." The four different dengue serotypes are maintained in a cycle that involves humans and the *Aedes* mosquitoes.

The death rate of DHF may reach as high as 20%. In most countries, the rate is approximately 5%. It is estimated that timely and appropriate treatment can cut the death rate to below 1%.

The principal symptoms include sudden onset of fever for 3-5 days, intense headache, joint and muscle pain, pain behind the eyes, nausea, gastrointestinal disturbances and rash. Minor bleeding, such as gum and nose bleeding, may occur at any time during the febrile phase. Children usually have

a milder disease than adults. The incubation period is 3 to 14 days. Recovery may be followed by prolonged fatigue and depression. Occasionally, the disease may progress to Dengue Hemorrhagic Fever (DHF) with bleeding and shock, leading to death.

CDC shifts strategy

Since Dengue is transmitted to people by the bite of *Aedes albopictus* and *Aedes aegypti*, it cannot be spread directly from person to person.

Eliminating pockets of stagnant water that serve as mosquito breeding sites at home, at schools, in workplaces and in their vicinity, and avoiding mosquito bites are the best measures to prevent DF. Mosquitoes are active in Taiwan from June to December which are rainy and humid with temperatures between 25° C and 30° C.

"This year, there are some trends identical to the 2002 outbreak," said Director Yang. "According to the data, we found that similar to 2002, half of July and August were raining days this year, which makes the mosquitoes easier to breed."

However, unlike 2002, CDC has changed its policies to make the prevention of DF more effective. "The strategy for an epidemic is different from that for an ordinary disease," said Director Yang. "For an ordinary disease, doctors just need to diagnose and give the right



Control to prevent an epidemic g community disease



Administration, Dr. Chang, co-hosted the 2006

affairs are run by the local health bureaus. The regular inter-departments meeting chaired by vice mayors or vice magistrates are held biweekly. But in case an epidemic erupts, the meetings will be held every week and more high-ranking officers will join to share their information on hand. In that moment, the Heads of Districts will take over to deploy the available resources and manpower. "The District Head has control over sanitation teams, village leaders, neighborhood leaders and many other grassroots units," said Director Yang. "The chain of command in this way is more flexible than that of the public health bureau or the environmental protection agency."

The District Heads are obliged to form a frontier center once DF breaks out in their district, which includes representatives from the public health bureaus, environmental protection agencies, civil administrations and the police force. They get briefed every day and immediately organize their resources.

In the past, the chain of command was organized by the local health bureaus, which lack authority to coordinate. "Take the activity we had last week, a large-scale cleanup that required the mobilization of a large amount of the police force, many large-sized garbage trucks and other machines and tools," said Director Yang. "Some houses had no occupants and some people resisted to cooperate, the intervention of public authority was necessary."

Besides execution, CDC also has improved its laboratory-based surveillance on DF. The possible DF samples delivered to the laboratories in the morning have to be finished in the

afternoon. This is a great improvement that enhances the ability of hospitals, clinics, and public health bureaus to grasp the entire situation. "Last year, we had only 202 cases, but the laboratories gathered 13,000 samples," said Director Yang. "All of the suspicious patients had been examined."

CDC regularly communicates with 600 to 700 doctors in outpatient services especially in Southern Taiwan. "We also remind doctors in clinics and hospitals, to ask their patients about their travel histories," he said. "In these years, the doctors in clinics and hospitals have already developed a high alert on the DF."

Tips for preventing DF

* General Public

At present, there is no effective vaccine against dengue fever. Please take the following precautionary measures to prevent the breeding of mosquitoes and avoid mosquito bites:

1. Put all used cans and bottles into trashcan with cover;
2. Change the water in vases at least once a week and clean them with brush, leaving no water in the saucers underneath flower pots;
3. Cover tightly all water containers, wells and water storage tanks;
4. Keep all drains free from clogs.

* Travelers

1. Wear long-sleeved clothes and long trousers;
2. Rest in air-conditioned or well-screened rooms;
3. Use mosquito nets or repellents when sleeping;
4. Use insect repellents approved by the Department of Health.

prescription, but an epidemic disease needs a larger amount of money, manpower and coordination with other governmental and non-governmental organizations." This is the policy that makes Taiwan one of the most efficient countries in preventing DF.

The present epidemic prevention measures are different from the ones in the 2002 outbreak. Nowadays the entire Kaohsiung City, Kaohsiung County and Pingtung areas have formed a so-called joint defense zone. If any of the cities or counties gets a DF case, the other two will be notified. When one county sprays disinfectant in the districts close to the border of the other county or city, the neighboring county will do so at the same time in case the mosquitoes move to the neighboring counties.

"This mechanism among these counties and cities so far works very well," said Director Yang. "This joint defense zone operates by a procedure even stricter than the one set by the CDC."

Such network cooperation has drawn the attention of Japan and Singapore where a serious DF epidemic broke out last year. Japan's NHK and Singapore's leading health officers have visited and consulted with the CDC officials on epidemic prevention measures.

Furthermore, CDC has changed its administration structure. When there is no indigenous case, the day-to-day



Yang Kuo-shi visited Cianjhen District of Kaohsiung City.

資料來源：TAIWAN NEWS 2006.8.25